Guidelines for development of Implant Dentistry in the next 10 years regarding innovation, education, certification, and associations

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Abstract: BACKGROUND During the third Summer Camp of European Association of Osseointegration (EAO), 40 junior representatives from various European societies and associations were brought together to discuss and explore the following topics in Implant Dentistry in the next 10 years: (I) certification, (II) societies and associations, (III) continuing education, and (IV) innovations. AIMS The aims of all working groups were to identify and outline the present situation in the area of the selected topic and to propose improvements and innovations to be implemented in the following 10 years. MATERIALS AND METHODS Four different groups were assigned randomly to one of the four working units. The method to discuss the selected topics was World Cafè. The summaries of four topics were then given to all participants for peer review. RESULTS AND CONCLUSIONS All four groups presented the conclusions and guidelines accordingly: (I) The recognition for Implant Dentistry and accreditation of training programs would lead to an improvement of the quality of care to the benefit of the patients; (II) Dental associations and societies have to continuously improve communication to meet needs of dental students, professionals, and patients (III) European Dental Board should be installed and become responsible for continue dental education; (IV) dental engineering, peri-implant diseases, and digital workflow in dentistry currently have limited tools that do not guarantee predictable results.

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EAO NEWS LETTER

WILEY CLINICAL ORAL IMPLANTS RESEARCH

Guidelines for development of Implant Dentistry in the next 10 years regarding innovation, education, certification, and associations

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Abstract

Background: During the third Summer Camp of European Association of Osseointegration (EAO), 40 junior representatives from various European societies and associations were brought together to discuss and explore the following topics in Implant Dentistry in the next 10 years: (I) certification, (II) societies and associations, (III) continuing education, and (IV) innovations.

Aims: The aims of all working groups were to identify and outline the present situation in the area of the selected topic and to propose improvements and innovations to be implemented in the following 10 years.

Materials and methods: Four different groups were assigned randomly to one of the four working units. The method to discuss the selected topics was World Cafè. The summaries of four topics were then given to all participants for peer review.

Results and conclusions: All four groups presented the conclusions and guidelines accordingly: (I) The recognition for Implant Dentistry and accreditation of training programs would lead to an improvement of the quality of care to the benefit of the patients; (II) Dental associations and societies have to continuously improve communication to meet needs of dental students, professionals, and patients (III) European Dental Board should be installed and become responsible for continue dental education; (IV) dental engineering, peri-implant diseases, and digital workflow in dentistry currently have limited tools that do not guarantee predictable results.

1 | INTRODUCTION

The Junior Committee of the European Association for Osseointegration (JC EAO) is a group of young active clinicians and scientists from different European countries working in the field of Dental Implantology. JC EAO organized its third summer camp (July 4th–July 6th, 2014, Sant Hilary Sacalm, Catalunya, Spain), bringing together 40 junior scientists and clinicians from various European and American societies and associations to discuss and explore four topics related to the future of Implant Dentistry. Participants worked in separate task groups, each with an assigned topic regarding the next 10 years:

I Certification
II Societies and associations
III Continuing education
IV Innovations

Each group was assigned to outline the present situation and current problems in the respective field, to identify future needs, and to propose ideas on how these demands can be resolved in the next decade.

This paper presents the results of four groups whose participants represented the non-governmental organizations (NGOs):

- European Academy of Dentomaxillofacial Radiology (EADMFR)[1],
- Portuguese Society of Periodontology and Implants known as Sociedade Portuguesa de Periodontologia e Implantes (SPPI)[2],
- German Association of Periodontology known as Deutsche Gesellschaft für Parodontologie (DGParo)[3],
- Italian Society of Periodontology and Implantology known as Societa Italiana di Parodontologia e Implantologia (SIdP)[4],
- German Association of Implantology known as Deutsche Gesellschaft für Implantologie (DGI)[5],
- Serbian Society of Periodontology and European Association of Osseointegration[6],
- Ukrainian Society of Periodontists, Osteology Foundation[7],
- Spanish Society of Periodontics and Osseointegration[8],
- Swiss Society of Periodontology[9],
- Academy of Osseointegration (AO)[10],
- European Federation of Periodontology (EFP)[11],
- Spanish Association of Periodontology, known as Sociedad espanola de periodoncia (SEPA)[12],
- Spanish Association of Prosthodontics, known as Sociedad espanola de protesis estomatologica (SEPES)[13],
- Belgium Society of Periodontology (BSP)[14],
- European Association for Osseointegration (EAO)[15],
- American College of Prosthodontists[16],
- American Academy of Maxillofacial Prosthetics[17],
- American Dental Association[18],
- International Team for Implantology (ITI)[19]
- European Academy of Esthetic Dentistry (AAED)[20]
- University Dental Clinic in Cracow, Poland[21]
- International Association for Dental Research, Implantology Group[22]
- Deutsche Gesellschaft für Zahn-, Mund- und Kieferheilkunde (DGZMK)/ German Association of Dental, Oral and Craniomandibular Sciences[23]
- International Association of Dentomaxillofacial Radiology[24]
- Italian Society of Osseointegrated Implantology (SIO)[25]
- European Calcified Tissue Society (ECTS)[26]
- Portuguese Dental Association[27]
- Portuguese Society of Orthodontics and Dentofacial Orthopedics[28]
- European Orthodontics Society[29]
- The Royal College of Surgeons[30]

1.1 | Aim

The aim of the EAO Junior Committee, by organizing EAO Summer Camp, was to identify and outline the present situation in the field of Implant Dentistry related to innovation, education, certification, and associations, and to propose improvements and innovations to be implemented in the following 10 years.

2 | MATERIAL AND METHODS

At the beginning of the EAO Summer Camp, four different groups were created, each representing one of the four topics to be discussed. The participants of the summer camp were assigned randomly to one of the four working units. After 30 min, they were asked to outline the current situation including problems and future needs of the respective topic. Subsequently, one person was chosen to remain at the unit while the other participants changed clockwise among the units. The person who remained had to initiate the discussion of the following group by summarizing the achieved results. At the end, the results of each topic were presented to all the participants. This method is called World Cafè, and it is a simple, effective, and flexible format for hosting large group discussions (Elliott et al., 2005).

After this, the participants could select the topic based on their preference with the constraint that each group should be of equal size. Then, the discussions were continued and the results were summarized and presented for a second time. The drafted summaries were then given to all participants for peer review. Eventually, the drafts were finalized by frequent online exchange and collaboration using Google Documents.

3 | RESULTS

The EAO Summer Camp resulted in four manuscripts created by following authors:

I In the first group dealing with "certification in the next 10 years" Pablo Ramirez Marrero[12], Adriano Sousa[2], Nele Van Assche[14, 15] Andrea Henderson[10, 16, 17, 18], Joan Pi Anfruns[10, 15],Sophie Dacquin[15], France Lambert[11, 14, *]

II In the second group dealing with "societies and associations in the next 10 years" Marco Clementini[8], David Garcia-Baeza[12, 13], Jose Nart[12, 19], Jose M. Navarro[12, 13, 15], Iwona Olszewska[21], Daniel S. Thoma[15], Katarzyna A. Gurzawska[15, 22, 30 *]

III In the third group dealing with "continuing education in the next 10 years" Kathrin Becker[5, 15, 23], Markus Bechtold[23], Marta Czownicka[21, 3], Ana Durao[1, 24], Luigi Minenna[4, 11, 25], Iva Milinkovic[6, 15], Monica Morado Pinho[27, 28, 29], Philipp Sahrmann[9], and Ferruccio Torsello[4, 15, 25 *]

IV In the forth group dealing with "Innovations in the next 10 years" Jordi Caballé-Serrano[12, 13, 19, 26], Àngels Pujol[12], Iuliia Braun[7], Jeroen Van Dessel[1], Xavi Costa-Berenguer[11, 12], Norbert Cionca[9], Daniel Saund[30], Dennis Rottke[1, 24], Philip L. Keeve[5, 23], Helena Francisco[2, 15, 27 *]

*With no order of importance, all authors contributed equally.

Authors of each manuscript presented their work during the EAO Summer Camp 2014. The results of the four groups presented in manuscripts were open for discussion until EAO Conference in Rome organized in September 2014. During the meeting, at the Junior Committee Session, the final outcomes of each group were

presented by representatives. This manuscript indicated the most important findings relevant to the topics discussed in the four groups. Each section related to the respective topics:

(I) certification, (II) societies, (III) continuing education, and (IV) innovation in the next 10 years, contains introduction, aim, results presented as guidelines, and conclusion.

3.1 | Group I: Certification in the next 10 years

The field of dentistry has significantly diversified over recent years. The evolution of the dental techniques and new treatment modalities has led to the development of several dental specialities. To meet standards for education and skills in a specific dental field, the recognition and certification of dental specialities are important.

To practice dentistry in the European Union (EU), dentists must be licensed. However, being licensed does not indicate whether a dentist is qualified to provide a high standard of care in a specific area of dentistry. One way to address this issue would be to recognize dental specialities within the EU. Currently, there is no governing body at European level that could regulate the creation of the dental specialties. There is thus a need to establish recognized standards such specialties. It follows therefore that Universities providing training should follow strict accreditation guidelines.

3.1.1 | Aim of Group I

The objective of the first group was to assess the needs in creation of certification system and discuss the further plans for three separated topics:

- Creation of the European Dental Board (EDB),
- Recognition of dental specialities and accreditation of training programs,
- Establishment of a certification in Implant Dentistry and the accreditation of training program.

3.1.2 | Guidelines of Group I

Currently, in the EU, the directive regulating professional qualifications (Directive 2005/36/EC), in force since 2007 (with several amendments), addresses only directly two specialties in the field of dentistry: orthodontics and oral surgery. For these two specialities, which have been recognized since the date of adoption of this Directive, the only requirement for automatic recognition is the existence of at least two member states with common regulations. For all other specialties that arise after the implementation of the Directive, it is required that there be official regulation in at least two-fifths of the member states so that the automatic recognition under the Directive is made possible. This automatic recognition of dental specialties foreseen in the Directive is based on the evidence of qualifications in accordance with paragraph two of article 35, requiring a full-time theoretical and practical training for at least 3 years at university level, in a treatment teaching and research center or, where appropriate, in a health establishment approved for that purpose by the competent authorities or bodies." The first group found that the regulations described in Directive 2005/36/EC are not well defined. Therefore, improvements in certification and recognition of dental specialisations are necessary. The improvements have been discussed in three fields.

Creation of the EDB

The group proposed that the EDB should consist of representatives from universities, scientific societies, associations, and healthcare system professionals. Private practitioners will be represented by the local scientific societies. Once this governing body is created, it would be its duty to list the different recognized specialties and to regulate them. Regulatory actions would include establishment of standards to be followed by Universities that provide speciality training. The EDB would work with the different professional associations that exist today to establish those standards. These standards would then be applied to all country members of the EU.

Recognition of dental specialities and accreditation of training programs

The European Dental Board would be in charge of coordinating and supervising the certification and accreditation process of the established specialties. Once the governance has been established, it will be the task of the European Parliament to pass it into law. The Board would develop and define the criteria for the accreditation of training programs, including educational programs, clinical practice, exam format, etc. For existing training programs and trained clinicians, the EDB would be in charge of evaluating whether they fulfill the prerequisite requirements. Under the direction of the EDB, training programs would take place at the University level and citizens of EU would be able to apply in any member state of the EU and their speciality would, therefore, be recognized in all EU countries.

Certificate in Implant Dentistry and accreditation of training program

Implant Dentistry involves interdisciplinary knowledge addressed in the different dental specialities and should be integrated as a comprehensive certification (Figure 1). Currently, the EAO offers an Implant Dentistry Certification of clinicians based on strict requirements. The candidates must hold an academic degree from an accredited dental school recognized within their own country. They should be able to demonstrate 250 hrs of training (theoretical 60% and clinical 40%), as well as have 5 years of experience in dentistry and, finally, they should present six cases to the EAO certification board. The EAO certification has triggered a certain interest in the dental community, and the requirements seem to be effective. Nevertheless, the number of accredited clinicians is still limited, and the EAO is not able to cope with the increasing demand that is expected.

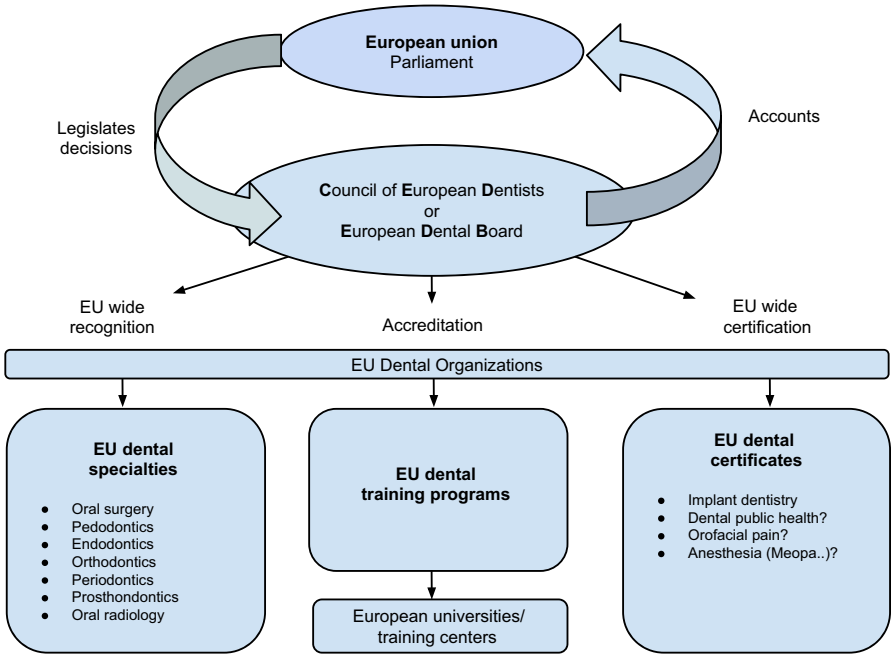

FIGURE 1 A model for management of work on creating certification regulations in Dentistry

To overcome these limitations, a change in paradigm of the certification process should be implemented moving the focus of the EAO certification board from clinician-based evaluation to the assessment of a holistic implant training program. Therefore, new standards should be addressed for Implant Dentistry programs. Application for the certification of an existing implant training program would be made either by universities or by training centers that prove capable of fulfilling all the established requirements.

3.1.3 | Conclusion of Group I

The recognition of dental specialties, establishment of a certification program for Implant Dentistry, and accreditation of training programs would lead to an improvement of the quality of care to the benefit of the patients.

3.2 | Group II: Societies and associations in the next 10 years

Professional dental societies and associations are well established to provide structural support for the realization of common aims and values. They are vitally important to inform the dental community through events, conferences, projects, and publications. In the field of Implant Dentistry, the number of associations varies extensively from country to country. In some countries, different associations and societies cover the same field of interest and may compete locally. Within a relatively short time, a rapid growth and expansion of activities challenged the national and/or regional societies and led to the establishment of global associations. One of the key challenges is the translation of global policy goals into concrete efforts and a sustainable development on a national and/or regional level. There is a considerable dissatisfaction within the national and international community regarding the impact of the associations on professionals, patients, and healthcare system.

3.2.1 | Aim of Group II

The second group aim was to establish unification criteria for national and international associations focused on Implant Dentistry development to

- Envision the role of professional organizations as they impact on professionals, health care, and patients, and
- Develop strategies to improve and standardize the impact of these organizations on professionals, health care, and patients in the next 10 years

3.2.2 | Guidelines of Group II

- Scientific societies and associations may benefit from having a balanced composition in their boards including academics, researchers, and clinicians. A rigorous scientific committee should be responsible for generating high-quality content for both professionals and patients. The presence of young professionals supports societies with new ideas, anticipated needs, and enthusiasm, providing the necessary link between the upcoming generation and the already well-established peers. This balance

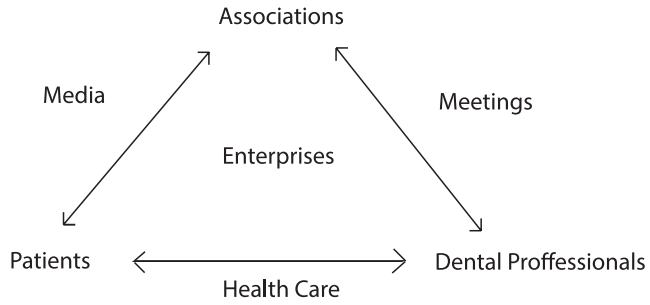

FIGURE 2 Diagram of communication pathways/links in a dental field between associations, dental professionals, patients and enterprises. Arrows indicate the preferred channels (media, meetings, health care system) of communication. Enterprises are a channel connected to all aspects of communication

of dental professionals insures the long-term continuity of these associations into the next era.

- Main strategy for the next 10 years would be improving communication toward patients and professionals, including members and non-members, dental students and young dentists, and other healthcare specialists (Figure 2).

For patients, evidence-based information should be published in a comprehensive manner to impact on oral and general health and their management. International and national campaigns should be designed to increase awareness and change attitudes and behaviors to oral health and dental treatment.

For dental professionals and academics, clinical guidelines and up to date consensus statements should be provided regularly (at least once a year) to provide the highest standards of care for patients. Moreover, university programs, as well as pre- and postdoc students, will benefit from the latest knowledge.

For other healthcare providers, regular joint information (newsletter) should be shared between different medical societies and its importance on dental and general health should reach policy makers.

- Different ways are available to deliver information. Dental national press could be used to release outcomes of recent research with an impact on oral and general health. New online tools such as websites, social networks, and digital platforms could amplify and spread the impact and the diffusion of such scientific information. These online possibilities not only allow the societies to reach a larger audience, including clinicians, patients, and healthcare professionals.
- It appears that the clinical impact on research does not advance as fast, to justify organizing meetings on a yearly basis.
- Costs for attending meetings currently appear to be substantially high for students and young dentists. Therefore, new information disseminating formats, online and e-learning platform compete with regular meetings. The online platforms could provide a more appropriate way of transferring information and educate dentists.
- In addition, new formats, such as combinations of hands-on and interactive courses in small groups, may attract higher number of clinicians to attend meetings.

Societies and associations are encouraged to support independent high-quality research in all aspects of dentistry by securing funds, encourage new investigators, and enhance the dissemination of the obtained high-quality research data to patients, thereby increasing the public awareness.

3.2.3 | Conclusions of Group II

In a rapidly changing environment, dental associations and societies have to continuously developing themselves. This involves

- Improvements in communication with dental students, professionals, and patients;
- An enhanced support of independent research
- An update of training and education
- The promotion of oral health and standard of care
- The development of a constructive partnership between dental associations and enterprises to create a transparent communication within dental field partners.

3.3 | Group III: Continuing Dental Education (CDE) in the next 10 years

The third group based their discussion on definition by the world dental federation (FDI) who states that CDE is the responsibility of the practicing dentist to be a continuous learner by participating in appropriate educational experiences.

The group identified non-standard criteria among the European countries regarding CDE obligation. While some countries require CDE to maintain the licenses (e.g., Germany), others provide benefits for CDE (e.g., Czech Republic), whereas some European countries apply no sanctions despite obligation (e.g., Austria, Italy, Greece), and some countries do not have any requirements regarding CDE (e.g., Greece, Sweden, the Netherlands). The number of countries with mandatory requirements increased in the last decade from 10 countries in 2004 to 17 countries in 2008 (Dentists, 2015), (Kravitz & Treasure, 2009).

In most of the countries in which CDE is compulsory, a Continuing Medical Education (CME) credits system is applied. Additionally, CDE is expanded by the concept of Continuing Professional Development (CPD).

3.3.1 | Aim of Group III

The aims of the third group were to identify and outline the present situation in the continuing education and to propose improvements and innovations to be implemented in the following 10 years.

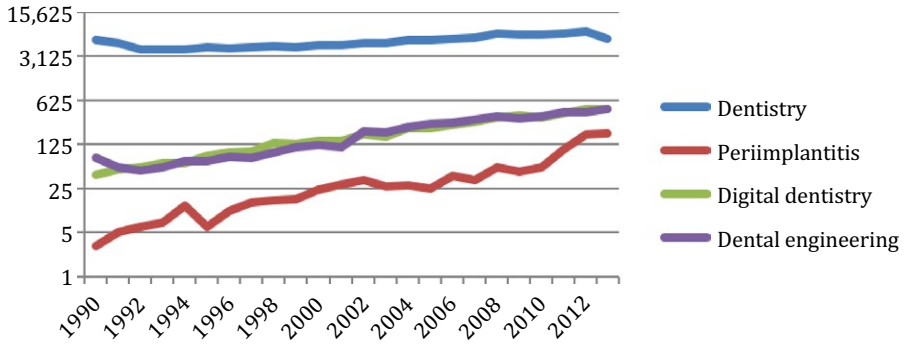

FIGURE 3 Bibliometric analysis of the scientific literature published from 1990 to 2013 concerning the number of publications on Periimplantitis, Digital Dentistry and Dental Engineering. Upper line is the reference with the total number of scientific publications in Dentistry. *Please note that the growing trend of the three topics discussed in this paper are higher that the growing trend of the total number of dental publications

3.3.2 | Guidelines of Group III

In the past years, CDE was expanded to include CPD, which focuses on the maintenance of skills, the process of keeping up to date with changes and advances in dental research, and integration of these developments into practice (Bullock et al., 2013). Standardization of CPD has been established by the European project dentCPD (2010–2012), which aims to "identify agreed essential CPD requirements of an EU graduate dentist and provide guidelines for the management and delivery of high-quality CPD by European dental schools". By means of surveys, dentCPD identified four core topics where CPD should be core-compulsory for dentists:

- Medical emergencies
- Infection control
- The medically compromised patient
- Radiation protection.

Furthermore, three CPD topics were agreed to be core-recommended:

- Health and safety
- Pain management
- Safeguarding children and vulnerable adults.

They also agreed that the teaching of all topics should be underpinned by evidence-based dentistry (Bailey et al., 2013).

Among the countries in which CDE is compulsory, the required workload and accreditation of CDE still differ. Most of the countries in which CDE is compulsory have installed a Continuing Medical Education (CME) credits system. CME credits are issued on behalf of the expected workload of the dentist (or physician) by the provider of the respective CDE learning activity. Prior to this, the learning activity must be accredited, which is usually performed through national authorities.

3.3.3 | Guidelines of Group III

During the 2014 summer camp, the third group agreed that advancement of CPD is essential to provide patients with contemporary evidence-based treatment. In addition, harmonization on the European level would enhance mobility of dentists among the European countries and would enable the establishment of common quality standards for patient care.

According to the third group and in agreement with the dentCPD core-compulsory topics, CDE-CPD should include the following topics:

- Life support and emergency training
- Hygiene and cross infection control
- Pharmacology, with focus on compromised patients
- Dental radiology

The third group also stressed that assessment of clinical competence should consist not only of theoretical knowledge testing but also clinical performance and patient-based decision taking.

Establishment of a EDB as a paramount institution of the national or international societies and associations is recommended. The EDB should focus on harmonization of requirements on credits and establish a curriculum that covers the core- compulsory, core-recommended as well as additional voluntary topics. Courses linked to the later categories may be electives. The curriculum has to be passed by all dental practitioners on a 5-year basis. Specialization and expert certificates should also require recertification, for which the authors also propose 5-year intervals.

It is proposed that advancement of CPD should be through an introduction of four core-compulsory topics to be passed at a 5-year level. Additionally, the group suggests an establishment of a EDB, as a paramount institution of the national and international societies and associations, which would be responsible for harmonization of CDE requirements, and establish the curriculum that covers the core-compulsory, core-recommended, and voluntary topics.

3.3.4 | Conclusions of Group III

European Dental Board (EDB) should be installed and become responsible for the supervision of CDE-CPD. EDB should set up a curriculum to which various CDE activities could be linked and establish a CDE quality assessment. Junior Committees from national and international societies may play a key role in the process of annual consensus on novel developments, new treatment concepts, and most relevant scientific outcomes.

3.4 | Group IV: Innovation in the next 10 years

Participants of the fourth group came across three main issues that should be considered in the next ten years concerning innovations in dental medicine:

- Dental engineering,
- Peri-implant diseases
- Digital workflow

Increasing number of publications of the chosen topics was noted compared with the total number of publications in dentistry (Figure 3).

3.5 | Dental engineering

The aim of dental engineering based on Group IV was to minimize invasive dental procedures with a significant reduction in postoperative morbidity by developing "intelligent" biomaterials and local drug delivery system.

3.5.1 | Guidelines of Group IV (dental engineering)

- Eliminating the need for donor sites both in soft and hard tissues would improve patient acceptability for treatments (Payne, Balasundaram, Deb, Di Silvio, & Fan, 2014). In addition, creating successful and predictable alloplastic, allogenic, or xenogenic grafts would reduce the morbidity of clinical treatments.
- Digitally printed or milled block grafts would be one possible solution to treat large and complex defects. These grafts would be coated by active molecules. These "Intelligent" molecules should remain close to the recipient site and be released according to the site conditions; for example, they could be activated by a change in pH.
- Injectable products could serve as the ideal vehicle for drugs to stay local and act locally without inducing systemic reactions. For example, new osseoinductive and antiresorptive biomaterials should be sourced from autogenous resources such as blood, cells, and same side bone harvesting.

Grafts coated with customized molecules, according to the type of tissue may have higher success rate to regenerate affected area. Antibiotics applied to the surface of an allograft could reduce the problem of side effects associated with the systemic use of these drugs (Choudhury, Needleman, Gillam, & Moles, 2001; Jepsen & Jepsen, 2016). They could also be prescribed more easily in different clinical conditions, for example, in patients at the extremes of age or with complex medical histories. As a result of successfully using these materials, minimally invasive approaches could be implemented with a significant reduction in postoperative morbidity, providing tissue regeneration, operating time reduction, and patient comfort. In addition, operative techniques would be greatly simplified to the benefit of clinicians and patients alike.

3.5.2 | Conclusion of Group IV (dental engineering)

Regeneration of hard and soft tissues needs implementation of precise replacement of teeth, bone, and gingiva. We currently have limited tools that do not guarantee predictable results. Future innovations should focus on less invasive techniques with the use of improved biomaterials and medications with their actions remaining local.

3.6 | Peri-implant diseases

The aim of peri-implant disease based on Group IV was to clarify and organize the concept of peri-implantitis to prevent the disease.

3.6.1 | Guidelines of Group IV (peri-implant diseases)

- There is a need in establishing a new diagnostic reference concept that can follow the stability of the hard and soft tissues as well as the coronal seal or attachment around implants. This diagnostic reference should consider the three-dimensional (3D) level of the peri-implant lesion. The success criteria including a more accurate analysis of the bone crest level, the esthetic outcome, the occlusion, and the patient's satisfaction should be considered.
- Epidemiologic studies have to be established in each country and integrated in a global database to support monitoring of disease progression and treatments outcomes.
- Education of the patients and professionals through guidelines is mandatory to improve prevention.
- Minimally invasive diagnostic and treatment as non-surgical therapy (e.g., high-resolution CBCT)
- Development of implant coating with antimicrobial and anti-inflammatory properties should be of main research focus to prevent peri-implantitis
- Development of osteoinductive biomaterial, which can rebuild a new bone able to integrate an implant.

3.6.2 | Summary of Group IV (peri-implant diseases)

Prevention and education are the innovation. A more accurate diagnosis is needed to anticipate disease. Painless supportive therapy

devices would increase patient's compliance. A better mucosal attachment around dental implants seems crucial for long-term stability of the crestal bone levels.

3.7 | Digital workflow

The aim of digital workflow based on Group IV was to address the needs of dentists on local and global level in continuous development of digital dentistry focused on radiological equipment, communications systems (PACS), data handling, analysis, and protection

3.7.1 | Guidelines of Group IV (digital workflow)

- Patient records and education should be digitalized
- Ethical issues and patient data protection need to be considered
- Continues education will become necessary and more specialists in dental radiology will arise
- Radiological images will be more sophisticated, and computer-aided diagnostics (CAD) will help radiologists to screen the increasing amount of data. More accurate radiological reports will help choosing the right treatment and planning for the patient
- Increased efficiency in diagnosis and treatment will help to lower the growing costs of the healthcare sector for the tax-payer and governmental institutions

3.7.2 | Conclusion of Group IV (digital workflow)

Digital dentistry is here to stay. However, in the past, the main issues were the costs and availability. Nowedays, due to a strong trend towards digital dentistry, which is replacing conventional techniques, the access improved. The costs overtime will decrease as the competition between industries will play a crucial factor on the dental market.

4 | FINAL CONCLUSION

The EAO JC Summer Camp identified the present situation related to innovation, education, certification, and association in Implant Dentistry. The participants exchanged the knowledge between working groups in each topic to learn and share from each others' experience. The outcome was presented as a manuscript, which highlighted a number of fields in each topic that need improvements. Proposed implementation by participants will be discussed at national and international meetings and will be evaluated in due course.

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